No. 705,809. Patented July 29, 1902.

H. B. YATES.

ADJUSTABLE THREAD CUTTING TOOL.

(Application filed Mar. 14, 1901.)

(No Model.)

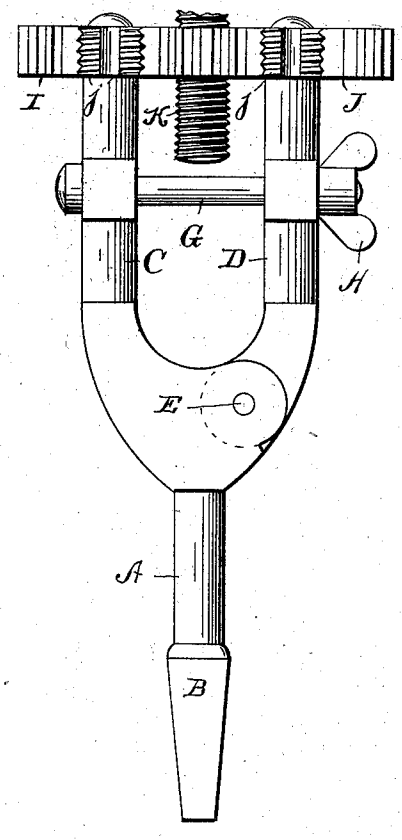


Fig 1

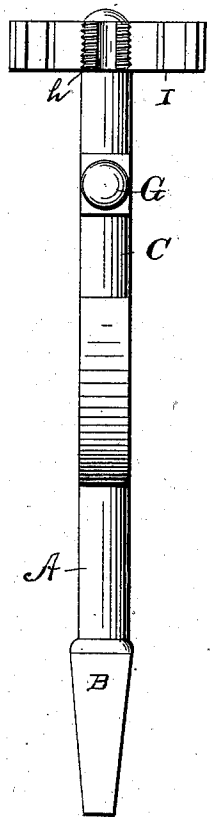


Fig 2

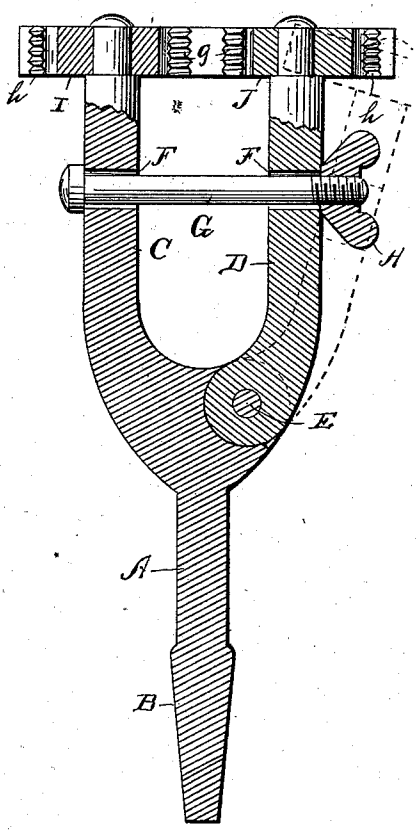


Fig 3

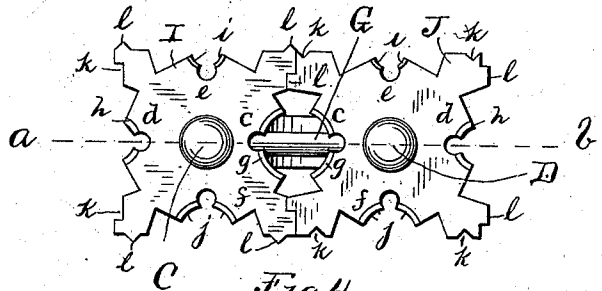


Fig 4

WITNESSES:

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UNITED STATES PATENT OFFICE.

HARRY B. YATES, OF SLATER, MISSOURI.

ADJUSTABLE THREAD-CUTTING TOOL.

SPECIFICATION forming part of Letters Patent No. 705,809, dated July 29, 1902.

Application filed March 14, 1901. Serial No. 51,054. (No model.)

To all whom it may concern:

Be it known that I, HARRY B. YATES, a citizen of the United States of America, residing in Slater, in the county of Saline and State of Missouri, have invented a new and useful Improvement in Adjustable Thread-Cutting Tools, of which the following is a specification, reference being had therein to the accompanying drawings, forming a part thereof.

My invention relates to improvements in thread-cutting tools.

The object of my invention is to provide a thread-cutting tool which can be utilized for cutting new threads on bolts or rods or which may be readily adjusted to recut threads which have been mutilated.

My invention provides, further, a thread-cutting tool that may be inserted in a brace and rotated thereby for the purpose of cutting a thread on a rod or bolt.

My invention comprises a thread-cutting tool having two arms movable relatively toward and from each other, two movable members mounted one on each of said arms and provided each with a plurality of cutting devices, each of which coöperates when the movable members have been properly positioned on the said two arms with a corresponding cutting device on the other movable member.

My invention provides, further, means for adjusting the two arms toward and from each other, so as to be adapted to different diameters of rods.

It provides, further, means by which the two members provided with the cutting devices may be prevented from transverse movement relative to each other after they have been properly positioned on the arms.

My invention provides, further, a thread-cutting tool comprising a shank having two arms, one hinged thereto, means for adjusting the hinged arm in the desired position relative to the other arm, two rotary members mounted on the said arms and provided each with a plurality of cutting devices, which when the said rotary members have been rotated to the proper position on the said arms coöperate with a corresponding cutting device on the other rotary member.

My invention provides, further, certain novel features of construction hereinafter fully described and claimed.

With my invention several sizes and styles of threads may be cut with the same tool by changing the positions of the rotary members having the cutting devices, and the construction of the tool is such that these changes may be quickly accomplished.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side elevation view showing the tool engaging the end of a bolt K. Fig. 2 is an elevation view from another side. Fig. 3 is a vertical sectional view taken on the dotted line *a b* of Fig. 4, a portion of the two arms being shown in elevation and the position of the hinged arm when moved to the open position in dotted lines. Fig. 4 is a plan view.

Similar letters of reference indicate similar parts.

A indicates the shank, provided at one end with the tapering flattened sides B for insertion into the jaws of an ordinary brace, such as is commonly used for drills or bits. The shank A is provided with two arms C and D, the arm D being hinged, by means of a pin E, to the shank. Each arm is provided with a transverse hole F, through which extends a bolt G, having a head on one end and threaded at the other end, whereon is mounted a nut H, which is adapted to bear against the arm D on the outside face thereof. The upper ends of the arms C and D are cylindrically formed and have mounted thereon the two rotary members I and J, respectively. Each rotary member is provided with a plurality of faces *c*, *d*, *e*, and *f*, respectively, and each face is provided with a cutting device consisting of a series of partial threads, such as are commonly employed in thread-cutting dies. Corresponding thread-cutting devices on corresponding faces are of the same size and style, so that when positioned with the faces adjacent and opposite the corresponding faces of the other rotary member they will coöperate in cutting a thread. The cutting devices are indicated by the letters *g*, *h*, *i*, and *j*. Upon corresponding faces of the rotary members are provided suitably-disposed recesses and projections, (indicated by *k* and *l*, respectively.) The projections on one face are so disposed as to enter and properly register with the recesses of the corresponding face. In order to prevent the wrong faces

from being inadvertently placed in position for cutting the thread, it is preferable to have only the recesses and projections of corresponding faces register. When the proper faces are brought into juxtaposition—as, for instance, the faces *c*, as shown in Fig. 4—the recesses and projections of the said two faces interlock and prevent transverse movement of the rotary members due to lateral strain in cutting a thread.

In operating my invention the nut H is removed, after which the arm D may be swung into the position shown in dotted lines in Fig. 3. The rotary members are then free to rotate on the arms C and D to the position in which the desired cutting devices are disposed adjacent to and opposite one another. The arm D is then swung so as to embrace the bolt the thread of which it is desired to recut, after which the nut H is replaced on the bolt G and turned thereon until the nut tightly bears upon the arm D. The brace, having been previously applied to the shank A, is then turned in the proper position to cause the tool to follow the thread on the bolt to the end thereof. The thread of the bolt will thus be recut to the proper size. In cutting new threads the adjustment may be made in a similar manner. It will be noted that by varying the position of the two rotary members from each other considerable variation in the size of the thread may be attained without the interlocking devices on the faces of the members being disengaged.

My invention is subjective of many modifications without departing from its spirit.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A thread-cutting tool comprising two rotary members provided each with a plurality of cutting devices each of which, when the said rotary members have been rotated to the proper position, coöperates with a corresponding cutting device on the other rotary member, means for adjusting the said rotary members toward and from each other, and each rotary member being provided with a locking device adapted to engage the opposite rotary member for preventing transverse movement of the said rotary members when they have been adjusted to the desired position, substantially as described.

2. A thread-cutting tool comprising two rotary members provided each with a plurality of faces having each a cutting device which, when the rotary members have been rotated to the proper position, coöperates with a corresponding cutting device on a corresponding face of the other rotary member, and corresponding faces of the two rotary members being provided with interlocking projections and recesses for preventing transverse movement of the rotary members, and means for adjusting the two members toward and from each other, substantially as described.

3. A thread-cutting tool comprising two rotary members provided each with a plurality of faces having each a cutting device which, when the rotary members have been rotated to the proper position, coöperates with a corresponding device on a corresponding face of the other rotary member, and corresponding faces being provided with interlocking projections and recesses for preventing transverse movement of the rotary members, the disposition of the said projections and recesses being such that only those on corresponding faces will properly register, and means for adjusting the said two rotary members toward and from each other, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY B. YATES.

Witnesses:
JOHN T. RECTOR,
JOHN A. RICH.